



Launch Mission Execution Forecast

Mission: Falcon 9 Starlink-L22

Issued: 22 Mar 2021 / 0800L (1200Z)

Valid: 24 Mar 2021 / 0428 – 0529L (0828 – 0929Z)



Forecast Discussion: High pressure is beginning to build back across the area in the wake of the weekend front. The associated low will continue to move up the eastern seaboard as it weakens. As this happens, winds have weakened over the Space Coast area, and will begin diminishing over the recovery area. Onshore winds will develop as we approach launch day and this will begin to increase low level moisture across the area. These winds are expected to be in the 5 to 10 mph range during the launch window. The primary concern will be the Cumulus Cloud Rule.

In the event of a 24-hour delay, winds begin to increase as low pressure develops over the Central US and begins to move into the Ohio Valley. With the increased winds, moisture will likewise increase over the area. This will help to support broken cloud conditions, and it is possible that there could be a thick cloud concern. Southerly to southeasterly low level winds are expected to be in the 12 to 17 mph range with the possibility of isolated gusts into the lower 20s mph. The primary concern for the backup day is from the Thick Cloud Layer Rule and for Liftoff Winds.

Launch Day	Probability of Violating Weather Constraints							
	10%	Primary Concerns: Cumulus Cloud Rule						
	Weather Conditions					Additional Risk Criteria		
	Weather/Visibility:	None / 7 mi.	Type	Coverage	Base (ft)	Tops (ft)	Upper-Level Wind Shear:	Low
	Temp/Humidity:	66°F / 87%	Cumulus	Scattered	3,000	4,500	Booster Recovery Weather:	Low
	Liftoff Winds (200’):	130° 5 - 10 mph					Solar Activity:	Low
24-Hour Delay	Probability of Violating Weather Constraints							
	20%	Primary Concerns: Liftoff Winds, Thick Cloud Rule						
	Weather Conditions					Additional Risk Criteria		
	Weather/Visibility:	None / 7 mi.	Type	Coverage	Base (ft)	Tops (ft)	Upper-Level Wind Shear:	Low
	Temp/Humidity:	68°F / 92%	Cumulus	Broken	2,500	6,500	Booster Recovery Weather:	Low
	Liftoff Winds (200’):	150° 12 - 17 mph	Cirrus	Broken	25,000	30,000	Solar Activity:	Low
Note: The Probability of Violation (POV) is the chance that a Lightning Launch Commit Criteria (LLCC) or certain user constraints (surface winds, precipitation, and temperatures, etc.) will be violated during the launch window. It does not take into account upper-level wind shear, booster recovery weather, and solar activity.								
Next Forecast Will Be Issued		23 Mar 2021						